

ABSTRACT

Methods and apparatus for compositing separately generated three-dimensional images in a two-dimensional graphics imaging pipeline of a computer graphics system to ultimately render a composited image on a display screen. The computer graphics system includes generally a graphics library and graphics hardware together defining the imaging pipeline, and a graphics application program invoking operations in the imaging pipeline through an application program interface provided by the graphics library. The imaging pipeline may be the only pipeline in the graphics system or it may be part of a larger rendering pipeline that also includes a geometric pipeline that generates two-dimensional images represented by pixel data. The graphics system also includes a frame buffer for storing pixel data to be displayed on the display device. The image compositing module performs depth testing and stencil testing on specific components of the next image that are separately and sequentially processed by the imaging pipeline. The stencil test is performed to determine initially which image is to be rendered at each pixel. An indication of the selected image is stored in a memory location associated with that pixel. The imaging pipeline writes to the frame buffer color data either the stored or next image based on the selected image indications.

20